Book Review

Flowering Plants of the World.* This beautifully produced book not only looks good; it even feels and smells good. Not since Le Maoût & Decaisne's *General System of Botany* (translated into English by J. D. Hooker's wife in 1873) have we had such a comprehensive, well-illustrated attempt to popularise Angiosperm systematics at the family level. It aims high, and for that reason deserves the compliment of critical scrutiny.

The book begins with a commendably clear introduction by V. H. Heywood on the Angiosperms and their classification, followed by a synopsis of the families accompanied by Stebbins's transectional diagram of the orders. This is followed by a glossary illustrated in part by diagrams adapted from Radford et al.'s *Vascular Plant Systematics* (1974) and aimed "to reach as wide a public as possible". Useful though it is, this contains some unfortunate errors in labelling. For instance, the panicle illustrated is clearly *Avena*, not *Hordeum vulgare*. In the longitudinal section of a peach, the exocarp and endocarp labels are reversed. More serious, the example chosen to illustrate a hypogynous flower (*Rubus*) is decidedly perigynous, nor can I find any evidence of a truly hypogynous condition in this family (Rosaceae). The glossary contains a surfeit of well illustrated but rarely used terms. How many botanists need to use the terms for special kinds of multiple fruit (sorosis, syconium, coenocarpium) or of monochasial cymes (drepanium, rhipidium, etc.)? These terms are unfamiliar even to the majority of professional taxonomists, and can only widen the gulf between them and the general reader being coaxed down the primrose path of botanical knowledge. Turning to the main systematic text, I find that the authors of the family accounts, where one might expect to find these terms in use, have sensibly avoided them.

The familial system (adopted for convenience in the main text of the book) is that of G. L. Stebbins (1974), i.e. basically that of Cronquist (1968) plus a dash of Takhtajan (1969) and Stebbins. However, the editors admit to having departed from the system by including some small segregate families in their nearest "parent" family. This is fair enough, but we are not told where such alterations have been made. Some other families, accepted in a broader sense by Stebbins, have been silently split up: Apocynaceae from Asclepiadaceae, Posidoniaceae from Zosteraceae. The awkward Molluginaceae has vanished without trace, neither the family nor its genera being mentioned in the index. Other, less straightforward, alterations occur in the vicinity of the Ericaceae and Liliaceae. We are all entitled to our opinions about the status of families and their relationships, but, if one is going to modify an accepted system, one should declare one's hand.

In the main text of the book (elegantly printed in three columns) the account of each family is dealt with under four headings: distribution, diagnostic features, classification and economic uses. The families are not formally described, but the basic information is presented in a fresh and more readable manner, attention being drawn to genera that possess particular features of interest. Space appears to have been rationed according to the size, economic importance, or interest of the group. The Gramineae wins, with more than three and a half pages of text. The Leguminosae earns only one and a half, plus (like the grasses) two full-page plates. Small families are reduced to half a page of text or less and (when illustrated) a half plate. It seems hard on the Chenopodiaceae (a large and diverse family dominant over vast arid areas) to be squeezed into the same space as the monogeneric Ceratophyllaceae.

As shown in the list of contributors, 44 specialists have been involved in writing the family accounts that make up the main text of the book. Classifications vary from the traditional (Ranunculaceae, Rosaceae, Leguminosae, Saxifragaceae) to the latest stage in the continuously changing process of subfamilial classification. Several specialists in particular families have been given their head. For instance, the Compositae (C. Jeffrey) appears with 17 tribes (instead of the traditional dozen) and the Gramineae (W. D. Clayton) with 6 subfamilies and c. 50 tribes, of which only the larger or more interesting can find a place. However, it does not look as though emphasising the Kranz syndrome in the Gramineae is going to do much to improve the family's classification.

It should be pointed out that *Flowering Plants of the World* is not directly concerned with identification. There is no key to the families, since the general reader, for whom the book is designed, would be unable to use one.

* *Flowering Plants of the World.* Heywood, V. H. (consultant editor); Moore, D. M., Richardson, I. B. K., Stearn, W. T. (advisory editors). 235 pages, quarto, including numerous plates and maps. 1978. Oxford University Press. Price £7.95

Blocked-in distribution maps (6 × 4 cm) are given for every family. Unfortunately the high general standard maintained elsewhere in the systematic account slips badly here, as it has done in so many books before. I mention but a few unfortunate cases. The Papaveraceae is omitted from S America, where *Bocconia* and *Argemone* occur. The Agavaceae is not present as a native in N Africa, nor the Polygonaceae absent from it. Surely the Gramineae does not grow over the whole Greenland Ice sheet? The distributions attributed to the Buxaceae, Pyrolaceae (untimely ripped from the Ericaceae) and Orchidaceae in the Middle East are excessively inaccurate. The northern limit of the Chenopodiaceae in Europe is wildly under-estimated, the Boraginaceae (cf. *Mertensia*) somewhat less so. Mapping family distributions is admittedly a time-consuming job, being founded on access to Floras, monographs and extensive herbarium collections, but it seems surprising that, with three advisory editors, such mistakes slipped by. One cannot help feeling that, if drafts of these maps could have been circulated round our national herbaria, many of the major errors would not have reached the printed page.

The illustrations are the particular glory of this book. They are the work of three gifted botanical artists: Victoria Goaman, Judith Dunkley and Christabel King, though there is no means of telling which their individual contributions are. The plates in the systematic account are of two types: whole page, largely in colour; and half-page, in sepia with a single part (e.g. flower or fruit) picked out in colour—an unusual but effective presentation. Both habit drawings and floral dissections are excellently done, though, from the point of view of reference, it would be useful to have them numbered. Many of the plants illustrated will be unfamiliar even to professional botanists. From the point of view of sales, the plates will prove irresistible. If we want to know what such exotic families as the Balanophoraceae, Cyanastraceae, Krameriaceae, Rapateaceae and Vochysiaceae look like, this is the book to turn to. Any detailed criticisms I have levelled at parts of the text pale before the quality and usefulness of the illustrations. I would willingly have sacrificed the maps (the book's only serious weakness) for plates of more of those small, mainly tropical families that remain unillustrated.

Despite my criticisms, this is a fine book that will bring pleasure and information to an enormous number of people—botanists, students and a nature-loving public. There is nothing in the same category. It is also miraculously cheap: the botanical bargain of the year.

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